Shaping the power of the future

Datasheet:

PowerShaper 50kW / 48kWh

Grid tied energy storage system

PowerShaper 50kW / 48kWh

The **PowerShaper** from Pixii, is an IP55 complete modular energy system, with all components integrated and ready to be connected to the grid for applications such as Solar self consumption, demand charge reduction, peak shaving and arbitrage services such as FCAS and voltage support.

Each cabinet can house up to 50 kW of power conversion and 48 kWh energy storage capacity.

For applications requiring more power or energy, additional cabinets can be installed. The PowerShaper can be used in applications from 10 kW up to 300 kW or 650 kWh.

The **PowerShaper** can provide a variety of energy saving or grid supporting services. These functions can be executed autonomously or controlled by commands and settings from higher level energy management systems communicating over different protocols.

The power conversion in the **PowerShaper** is achieved using the **Pixiibox**, a bidirectional 3,3 kW AC/DC converter module. There is room for up to 15 modules configured to either single or 3 phase 240/415V.

Each cabinet is scalable from 10kW to 50kW in 3.3kW Inverter modules and from 4.8kWhr to 48kWhr using the Polarium SLB-100-145-5 LFP 48V Battery Module

The system includes the Pixii Gateway controller providing advanced monitoring and control applications as well as communication and interoperability via the internet, wifi or the wireless network .

Key features & services

- Modular and Scalable
- For applications 10kW to 1 MW
- Compact Energy Storage
- Fast Response (charge to discharge)
- Integrated & battery inverter Solution
- Wide range of functions
- Galvanically Isolated AC to DC
- 48V Battery Voltage for ease of service

PixiiBox 3.33kW Bi Directional Inverter module

System Specifications

Grid tied energy storage system

General data:

Max Power (bi-directional)	Up to 50 kW
Nominal AC voltage	230/400VAC
Frequency	50 or 60Hz
Max AC current (fully equipped):	80A
Nominal DC voltage	48VDC
Max DC current (fully equipped)	1,125A
Communications protocols	M-bus, Modbus RTU, TCP/IP Ethernet, 4G Wifi

Maximum operating temperature	50°C
Minimum operating temperature	-20°C
Dimensions (w x d x h)	700x900x2000 mm
Weight (fully equipped) kg	600 kg
Cabinet protection class	IP 55
Color	RAL7035
Environmental management	Fan Cooled (Aircon Optional)

Key services:

TOU (Time of use) cost reduction	Support loads from battery when electricity rates are high, and charge battery when electricity rates are low
Demand charge cost reduction	Limit grid power peaks to reduce (monthly) demand charges
PV self-consumption	Charge batteries instead of curtailing or feeding-in solar energy generation. Discharge batteries when there is no or little solar energy generation
Back-up power	Support important loads from battery during grid outages
Demand Response	Provide active power according to received commands
Power congestion relief	Increase the peak power capacity beyond transformer, line or fuse constraints
Voltage support	Support grid to maintain grid voltage within set limits
Phase balancing	Feed power from higher-voltage phases to lower-voltage phases
Reactive power compensation	Adjust the grid power factor by consuming or generating reactive power
Frequency support	Adjust active power to/from the grid according to measured deviation from nominal grid frequency
Micro-grid	Provide power in an isolated grid in combination with local PV and/or generators ensuring optimal utilization of solar energy and kWh/liter diesel
Optimal generator operation	In combination with diesel generators ensure maximum useful energy per liter diesel consumed and assisting the generator to manage overloads etc.

Applicable standards:

Safety	IEC/EN 62109-1, IEC/EN 62109-2, IEC/EN 62040-1, IEC/EN 62477, UL1741, (Batteries) IEC 62619, IEC 62368, UN38.3
Grid	AS/NZS 4777-2, VDE-AR-N 4105, EN50438, IEEE 1547, IEEE 1547.1, UL1741 (others pending)
EMC	IEC/EN 61000-6-1, IEC/EN 61000-6-2, IEC/EN 61000-6-3, IEC/EN 61000-6-4
Environment	ETSI EN 300 019:2-1 (Class 1.2), ETSI EN 300 019:2-2 (Class 2.3), ETSI EN 300 019:2-3 (Class 3.2)

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